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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/924,279	08/08/2001	Yuen-Foo Michael Kou	09215-005001	6123

26161 7590 07/21/2003

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EXAMINER
PATEL, PARESH H

ART UNIT	PAPER NUMBER
2829	

DATE MAILED: 07/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/924,279	KOU, YUEN-FOO MICHAEL	
	Examiner	Art Unit	
	Paresh Patel	2829	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 April 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *7-25 and 58-64* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *7-25 and 58-64* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of species of fig. 6B (now fig. 1, 6A, 6B) in Paper No. 4 is acknowledged. The traversal is on the ground(s) that Fig. 2A and 2B (fig. 3A-D represent different embodiment of fig. 2A-B) are related in design, operation and effect, and there would be no undue burden on the USPTO to examine the claims read on both configuration. This is not found persuasive because different embodiment requires different search in different area.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 7-11, 23-25 and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida in view of DeSanto (US 4728885).

Regarding claims 7 and 58, Yoshida discloses: A method of evaluating a set of identical electronic components prior to installing the components into electronic assemblies, the method comprising:

collecting data (receive a set of data of claim 58) **[from detection sensor 2 and 4]** indicative of an environmental condition **[see Abstract]** associated with the electronic

components **[see Abstract]** during consecutive periods of time prior **[data collected with respect to time counting means 8]** to installing the electronic components from the set into the electronic assemblies;

storing the collected data **[in memory 9];**

evaluating whether the electronic components are suitable for installation based on an estimated cumulative effect of exposure to the environmental condition based on the stored data **[inherent to CPU 1].**

Yoshida discloses all the elements except for installing the electronic components from the set into the electronic assemblies and for electronic components found suitable for installation, installing the suitable electronic components into electronic assemblies. However, DeSanto discloses an electronic components **[20]** found suitable for installation, installing the suitable electronic components into electronic assemblies **[such as AC outlets of customer site].** It would have been obvious to one having ordinary skill in the art to find suitable electronic component as taught by Yoshida and install them into electronic assembly as taught by DeSanto, in order to save time and money to determine good electronic component by analyzing the characteristics of the recorded conditions of customers site, before assembling or shipping.

Regarding claim 8, Yoshida discloses: The method of claim 7 wherein collecting the data indicative of the environmental condition comprises sensing atmospheric moisture content [inherent to humidity].

Regarding claim 9, Yoshida discloses: The method of claim 8 wherein sensing atmospheric moisture content comprises measuring ambient temperature [inherent to temperature].

Regarding claim 10, Yoshida discloses: The method of claim 8 wherein sensing atmospheric moisture content comprises measuring relative humidity [using 2 and 4].

Regarding claim 11, Yoshida discloses: The method of claim 7 wherein storing the collected data comprises organizing the collected data into a graphical format plotted against a time axis [inherent to time counting means].

Regarding claim 23, Yoshida discloses: The method of claim 7 wherein evaluating whether the electronic components are suitable for installation comprises integrating a set of sensed moisture content values over time to calculate a cumulative environmental exposure factor [using CPU 1].

Regarding claim 24, Yoshida discloses: The method of claim 7 wherein evaluating whether the electronic components are suitable for installation comprises comparing the estimated cumulative effect of exposure to the environmental condition to a predefined acceptance criteria to determine an estimated reliability factor [using CPU1].

Regarding claim 25, Yoshida discloses: The method of claim 7 wherein evaluating whether the electronic components are suitable for installation comprises comparing the estimated cumulative effect with a predefined acceptability criteria to determine a go/no-go type of recommendation [inherent to CPU 1].

Claims 12-22 and 59-64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida and DeSanto as applied to claims 7 and 58 above, and further in view of Tow (US 6560839).

Regarding claims 12 and 59, Yoshida and DeSanto discloses all the elements except wherein evaluating whether the electronic components are suitable for installation comprises **estimating a remaining floor life** associated with the electronic components. Tow discloses electronic component and suggests providing the customers with component having a maximum **floor life**. Hence, **estimating a remaining floor life** is obvious to Tow and therefore one can modify method steps of Yoshida and DeSanto with baking step of Tow, in order to improve maximum life of component for customer and/or before assembling and shipment.

Regarding claims 13 and 60, Tow discloses: The method of claim 12 wherein estimating the remaining floor life comprises identifying a reference time (in the time-based data for claim 60) **[inherent to burn-in and lines 8-20 of column 2]** associated with a reference remaining floor life value **[value related to max. floor life]**.

Regarding claim 14, Tow discloses: The method of claim 13 wherein the reference time is identified as a time that collecting data indicative of the environmental condition was initiated **[time when baking (step 124 of fig. 1) initiated]**.

Regarding claim 15, Tow discloses: The method of claim 13 wherein the reference time is identified based on a time that a baking event occurred **[step 124 of fig. 1]**.

Regarding claim 16, Tow discloses: The method of claim 13 wherein the reference time is identified based on a time that the electronic components experienced a prolonged exposure to a temperature greater than a preset temperature **[temperature of step 124 of fig. 1]**.

Regarding claim 17, Tow discloses: 17. The method of claim 13 wherein the reference time is identified as a time that a final set of data was collected **[time at the end of baking step 124 of fig. 1]**.

Regarding claim 18, Tow discloses: The method of claim 12 wherein estimating the remaining floor life comprises calculating a floor life reduction value associated with each consecutive period of time [inherent to baking step].

Regarding claim 19, Tow discloses: The method of claim 18 wherein estimating the remaining floor life further comprises determining a total remaining floor life value based on the floor life reduction values associated with each consecutive period of time [inherent to baking step].

Regarding claim 20, Tow discloses: The method of claim 12 wherein the remaining floor life is estimated based on an associated reference temperature and relative humidity [inherent to baking step].

Regarding claim 21, Tow discloses: The method of claim 12 wherein estimating the remaining floor life comprises accounting for a moisture sensitivity level associated with the set of electronic components [inherent to baking step].

Regarding claim 22, Tow discloses: The method of claim 12 wherein estimating the remaining floor life comprises accounting for a body thickness associated with the electronic components [inherent to baking step].

Regarding claim 61, Tow discloses: The computer-readable medium of claim 58 further comprising computer executable instructions for causing the computer system to calculate a reduction in floor life associated with each of multiple, successive periods of time represented by the time-based data **[inherent to interval between each test the IC's are exposed to moisture, see lines 12-17 of column 1]**.

Regarding claim 62, Tow discloses: The computer-readable medium of claim 61 further comprising computer executable instructions for causing the computer system to calculate a cumulative total remaining floor life **[inherent to max. floor life determination, see lines 19-23 of column 1]** based on the reductions in floor life associated with each of the periods of time.

Regarding claim 63, Tow discloses: The computer-readable medium of claim 58 further comprising computer executable instructions for causing the computer system to calculate an integral function of sensed ambient moisture content over time to identify an environmental exposure factor **[inherent to minimizing the exposure, see lines 55-60 and 23-26 of column 1]**.

Regarding claim 64, Tow discloses: The computer-readable medium of claim 63 further comprising computer executable instructions for causing the computer system to compare the calculated environmental exposure factor to a predetermined benchmark value representative of an ideal environmental exposure factor **[inherent to calculating**

moisture threshold and comparing the results, see lines 1-16, 50-54 and 64-67 of column 3].

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paresh Patel whose telephone number is 703-306-5859. The examiner can normally be reached on M-F (8:30 to 4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kammie Cuneo can be reached on 703-308-1233. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Paresh Patel
July 14, 2003

KAMAND CUNEO
SUPERVISORY PATENT EXAMINER
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